AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A high-density recording medium, comprising:

a lead-in zone in which recording medium information is recorded ; and

a specific area, prior to said lead-in zone, in which ~~control~~ disc information regarding a recording capacity of said high-density recording medium is recorded, wherein the ~~control~~ disc information is one of the recording medium information recorded in the lead-in zone, the specific area is a burst cutting area and the burst cutting area includes a plurality of data units, each data unit is composed of 16 information data and 16 parity data and the disc information is included in 16 information data of at least one data unit.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) The high-density recording medium as set forth in claim [4] 1, wherein said ~~control~~ disc information is repeatedly included in each data unit.

6. (Currently Amended) The high-density recording medium as set forth in claim [1] 5, wherein said ~~control~~ disc information is channel bit length information variably set to a different value depending on the recording capacity of said high-density recording medium.

7. (Withdrawn) A method for controlling data playback/recording of a high-density recording medium, comprising the steps of:

a) detecting a control information regarding a recording capacity of said high-density

recording medium from a specific area using a push-pull signal; and

b) performing a data playback/recording operation with reference to the detected control information.

8. (Withdrawn) The method as set forth in claim 7, wherein said specific area is a BCA located prior to a lead-in zone of said high-density recording medium.

9. (Withdrawn) The method as set forth in claim 8, wherein said control information is detected from at least one data unit included in said BCA.

10. (Withdrawn) The method as set forth in claim 7, wherein said control information is channel bit length information variably set to a different value depending on the recording capacity of said high-density recording medium.

11. (Withdrawn) The method as set forth in claim 10, wherein said step b) includes the step of performing a bit detection mode corresponding to the recording capacity of said high-density recording medium with reference to said channel bit length information to perform the data playback/recording operation.

12. (Withdrawn) A method for controlling data playback of a high-density recording medium, comprising the steps of:

a) sequentially performing a plurality of predetermined bit detection modes with regard to said recording medium to calculate bit error rates in the bit detection modes, respectively; and

b) selecting one of said bit detection modes corresponding to a smallest one of the calculated bit error rates and performing a data playback operation in the selected bit detection mode.

13. (Withdrawn) The method as set forth in claim 12, wherein said plurality of bit detection modes are set to be appropriate respectively to reproductions of high-density recording mediums with different recording capacities.

14. (Withdrawn) The method as set forth in claim 13, wherein said different recording capacities are 23Gbytes, 25Gbytes and 27Gbytes.

15. (Withdrawn) An apparatus for controlling data playback of a high-density recording medium, comprising:

a detection unit for performing one of a plurality of predetermined bit detection modes with regard to said high-density recording medium;

a decoding unit for calculating and outputting a bit error rate from data bits detected by said detection unit; and

a control unit for controlling said bit detection mode of said detection unit and selecting one of said bit detection modes corresponding to a smallest bit error rate on the basis of the calculated bit error rate.

16. (Withdrawn) The apparatus as set forth in claim 15, said detection unit comprising:

a plurality of equalizers;

a first switch for applying an input radio frequency (RF) signal to one of said equalizers;

a phase locked loop (PLL) connected to output terminals of said equalizers;

a plurality of partial response maximum likelihood (PRML) detectors; and

a second switch for applying an output signal from said PLL to one of said PRML detectors.

17. (Withdrawn) The apparatus as set forth in claim 15, said decoding unit comprising:

a demodulator for demodulating modulated digital data;

an error correcting unit for performing error correction for the demodulated data; and

a bit error rate (BER) calculator for calculating and outputting said BER of said detected data bits.

18. (Withdrawn) The apparatus as set forth in claim 16, wherein said control unit is adapted to select one of said equalizers and one of said PRML detectors most appropriate to the reproduction of said high-density recording medium on the basis of BERs calculated based on signal paths sequentially formed by controlling said first switch and second switch.

19. (Withdrawn) The apparatus as set forth in claim 18, wherein said control unit is adapted to control said first switch and second switch to connect the selected equalizer and the selected PRML detector to each other, so as to reproduce said high-density recording medium.

20. (Withdrawn) The apparatus as set forth in claim 16, wherein said equalizers and said PRML detectors are set in pairs to be appropriate respectively to different recording capacities allowable by said high-density recording medium.

21. (Withdrawn) The apparatus as set forth in claim 20, wherein said different recording capacities allowable by said high-density recording medium are 23Gbytes, 25Gbytes and 27Gbytes.

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)

27. (Withdrawn) A method for controlling data playback/recording of a recording medium, comprising the steps of:

     a) detecting a channel bit length information recorded in a burst cutting area, the channel bit length information is one of a control information recorded in a lead-in zone, and the burst cutting area located prior to the lead-in zone; and

     b) controlling a data playback or recording operation in accordance with at least the detected channel bit length information.

28. (Withdrawn) The recording medium of claim 27, wherein the burst cutting area includes

at least one data unit, and the channel bit length information is recorded in the at least one data unit.

29. (Withdrawn) The method of claim 27, wherein the burst cutting area includes a plurality of data units, and the channel bit length information is recorded in each data unit.

30. (Withdrawn) The method of claim 28, wherein data unit contains a plurality of information bytes, and the channel bit length information is recorded in a predetermined information byte of data unit.

31. (Withdrawn) The method of claim 27, wherein the channel bit length information is variably set to a different value depending on the recording capacity of said recording medium.

32. (Withdrawn) The method of claim 27, wherein said step b) includes the step of performing a bit detection mode or a bit generation mode in accordance with the channel bit length information for the data playback or recording.

33. (Withdrawn) The method of claim 31, wherein the channel bit length information is one of 80.0nm, 74.5nm, and 69.0nm, thereby accomplishing maximum recording capacity of 23.3GB, 25.0GB, and 27.0GB respectively.

34. (Withdrawn) A method for controlling data playback/recording of a recording medium, comprising the steps of:
    a) identifying a channel bit length of the recording medium from a channel bit length information recorded in a burst cutting area at early stage of drive start-up procedure, the channel bit length information is one of a control information recorded in a lead-in zone, and the burst cutting area located prior to the lead-in zone; and
    b) controlling a data playback or recording operation based on at least the identified channel bit length.

35. (Withdrawn) The method of claim 34, further comprising:

moving an optical pickup to first read the channel bit length information when the recording medium is loaded into a recording or reproducing device.

36. (Withdrawn) The method of claim 34, wherein the burst cutting area including a plurality of data units, the channel bit information is included in at least one data unit, further comprising:

processing the at least one data unit to identify the channel bit length.

37. (Withdrawn) The method of claim 34, wherein said step b) includes the step of detecting a bit of data recorded in said recording medium with reference to said channel bit length information to perform the data reproducing operation.

38. (Withdrawn) The method of claim 34, wherein said step b) includes the step of generating data to be recorded in said recording medium with reference to said channel bit length information.

39. (Withdrawn) The recording medium of claim 24, wherein data unit contains a plurality of information bytes, and the channel bit length information is recorded in a predetermined information byte of data unit.

40. (Withdrawn) The method of claim 29, wherein data unit contains a plurality of information bytes, and the channel bit length information is recorded in a predetermined information byte of data unit.

41. (New) The high-density recording medium as set forth in claim 5, wherein each disc information is recorded in predetermined byte position in each data unit.

42. (New) The high-density recording medium as set forth in claim 5, wherein the high-density recording medium can record 25GB when the channel bit length is 74.5nm and 27GB when the channel bit length is 69nm.